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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/621,112 | 07/16/2003 | Alexander Gelman | 9432-000201 | 8441 |

27572 7590 06/23/2009

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| EXAMINER | |
|---|---|
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| ART UNIT | PAPER NUMBER |
|---|---|
| 2456 | |

| MAIL DATE | DELIVERY MODE |
|---|---|
| 06/23/2009 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/621,112 | GELMAN ET AL. | |
| | Examiner | Art Unit | |
| | Richard G. Keehn | 2456 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *28 August 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

**1. Claims 1-51 have been examined and are pending.**

**2. Claims 49-51 are new.**

**3. Claim amendments necessitate a new ground(s) of rejection. Therefore, this Office action is made FINAL.**

### *Response to Arguments*

**4.** Applicant's amendments with arguments, see Page 23, filed 8/28/2008, with respect to objection of the Specification (specifically related to the Title) have been fully considered and are persuasive. The objection of Specification has been withdrawn.

**5.** Applicant's replacement drawings with arguments, see Page 23, filed 8/28/2008, with respect to Drawing Objections have been fully considered and are persuasive. The objection of the drawings has been withdrawn.

**6.** Applicant's amendments with arguments, see Page 23, filed 8/28/2008, with respect to the Objection of Claim 42 have been fully considered and are persuasive. The Objection of Claim 42 has been withdrawn.

**7.** Applicant's amendments with arguments, see Page 24, filed 8/28/2008, with respect to the rejection of Claims 36-41 and 43-38 have been fully considered and are persuasive. The rejection of Claims 36-41 and 43-38 has been withdrawn.

**8.** Applicant's arguments filed 8/28/2008 with respect to Claim 18 have been fully considered but they are not persuasive. Applicant argues that Blackett et al. do not

disclose appliance control interface and data. Figures 6 and 7 clearly disclose control of the generator which is an appliance. Therefore Applicant's argument is unpersuasive.

***9.*** Applicant's arguments filed 8/28/2008 with respect to Claims 35 and 42 have been fully considered but they are not persuasive. Applicant argues that Blackett et al. do not disclose making a universally format data transmitted between devices available. Examiner respectfully disagrees. All data is transferred via some protocol, and hence at least some portion of the data transferred conforms to said protocol which is formatted according to that protocol. (Abstract discloses IM communication protocol) Therefore Applicant's arguments are unpersuasive.

***10.*** Applicant's arguments filed 8/28/2008 with respect to Claim 1 been fully considered but they are not persuasive. The amended claim language "wherein the node element is operable to expose an existing communication interface that is for communicating data with and that is of a device in the electric power network to another device in the electric power network" is not persuasive because Blackett et al. disclose the networking of IED which contain communication devices and sharing data among said devices, therefore one device's communication interface is exposed to any connecting device (See Blackett et al. Figures 1 and 2a) The amended claim language "wherein the node element is operable to expose an existing interface that is for controlling at least one operational function of and this is of a device in the electric power network to another device in the electric power network" is unpersuasive because Blackett et al. disclose the controlling interface of an IED (Figure 2a, element

220) which is connected via the communication interface and interconnected in a network of IED's (Figure 1).

***11.*** Applicant's arguments filed 8/28/2008 with respect to Claims 50 and 51 have been fully considered but they are not persuasive. These claims introduce new matter. The negative limitation "wherein the source and destination devices are not power management components of the utility power network" is not supported in the specification, nor is it supported in the previous claims, nor is it supported in the drawings.

***12.*** Applicant's remaining arguments with respect to claims 1-51 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 112*

***13.*** The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

***14.*** Claims 50 and 51 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The negative limitation "wherein the source and destination devices are not power management components of the utility power

network" is not supported in the specification, nor is it supported in the previous claims, nor is it supported in the drawings.

***15.*** The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

***16.*** Claim1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "this" in the first line on Page 8 of the amended claims. There is insufficient antecedent basis for this limitation in the claim. There is no indication as to what "this" refers to.

***Claim Rejections - 35 USC § 102***

***17.*** The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***18.*** Claims 1-4, 6-48, 50 and 51 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,944,555 B2 (Blackett et al.).

As to Claim 1, Blackett et al. anticipate in an electric power network, an advanced communications system employing an atomic communications system architecture, comprising:

a node element deployable on said electric power network and having a global port and an inward port (Fig. 3b and Column 5, line 62 through Column 6, line 23 disclose the IED in an electric power network with ports connected to the power source for monitoring and the network to communicate with other devices on the network);

the node element having a global data store that is populated with information supplied via said global port and is accessible via said local port (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents. Column 13, lines 13-19 disclose the collection of data from the port connected to the network components or to other IED's);

the node element having a local data store that is populated with information supplied via said local port and is accessible via said global port (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents. Column 11, lines 47-59 disclose the memory used to store data from the local power management port and the use of the IED as a communications device with other IED devices);

the node element being configured to selectably support at least one of three planes of interaction using the information maintained within said global and local data stores (Column 12, lines 1-22 disclose the power management application components including peer-to-peer communication, power control and monitoring components that can operate together or selectively in any combination):

a power analysis plane of interaction (Column 5, line 62 through Column 6, line 23 disclose the IED performing power analysis),

a data plane of interaction, wherein the node element is operable to expose an existing communication interface that is for communicating data with and that is of a device in the electric power network to another device in the electric power network (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports; Blackett et al. disclose the networking of IED which contain communication devices and sharing data among said devices, therefore one device's communication interface is exposed to any connecting device - See Blackett et al. Figures 1 and 2a), and

a control plane of interaction, wherein the node element is operable to expose an existing interface that is for controlling at least one operational function of and this is of a device in the electric power network to another device in the electric power network (Column 5, line 62 through Column 6, line 23 disclose the IED controlling its associated load; Blackett et al. disclose the controlling interface of an IED (Figure 2a, element 220).

As to Claim 2, Blackett et al. anticipate the communications system architecture of claim 1 wherein said node element is implemented using modular blocks providing sets of features that can be selectively included or excluded (Column 12, lines 1-22 disclose the power management application components including peer-to-peer communication, power control and monitoring components that can operate together or selectively in any combination).

As to Claim 3, Blackett et al. anticipate the communications system architecture of claim 1 wherein said node element is adapted to selectively enable and disable selected ones of said planes of interaction (Column 12, lines 1-22 disclose the power management application components including peer-to-peer communication, power control and monitoring components that can operate together or selectively in any combination).

As to Claim 4, Blackett et al. anticipate the communications system architecture of claim 2 wherein said sets of features include features to selectively enable and disable said planes of interaction (Column 12, lines 1-22 disclose the power management application components including peer-to-peer communication, power control and monitoring components that can operate together or selectively in any combination).

As to Claim 6, Blackett et al. anticipate the communications system architecture of claim 1 wherein said local data store is configured to store aggregate information that is periodically updated(Column 5, lines 37-41 disclose monitoring which is the collection of aggregate data over periodic intervals. Column 16, lines 49-55 disclose the periodic update of consumption data at pre-defined time intervals).

As to Claim 7, Blackett et al. anticipate the communications system architecture of claim 1 wherein said local data store is configured to store local interface information about with a device associated with said node element (Column 5, line 62 through Column 6, line 23 disclose the IED holding device information until a polling request is made. Column 11, lines 47-59 disclose the memory used to store data from the local power management port and the use of the IED as a communications device with other IED devices).

As to Claim 8, Blackett et al. anticipate the communications system architecture of claim 1 wherein a first node element is configured to acquire local interface information about a device associated with said node element and to propagate that local interface information to another node element on said electric power network (Column 5, line 62 through Column 6, line 23 disclose the IED collecting local device information and pushing the data onto the network).

As to Claim 9, Blackett et al. anticipate the communications system architecture of claim 8 wherein said first node element acquires local interface information through said inward port and propagates said local interface information through said global port (Fig. 3b discloses the IED's input and output ports as load monitoring and communication ports respectively in this embodiment).

As to Claim 10, Blackett et al. anticipate the communications system architecture of claim 1 wherein said node element implements said power analysis plane of interaction to collect and disseminate power quality of service information (Column 5, line 62 through Column 6, line 23 disclose the collection and analysis of power information and the dissemination onto the network).

As to Claim 11, Blackett et al. anticipate the communications system architecture of claim 1 wherein said node element implements said data plane of interaction to couple a device associated with said node element to an external source of information (Column 5, line 62 through Column 6, line 23 disclose the coupling of the local device to the network devices via the IED).

As to Claim 12, Blackett et al. anticipate the communications system architecture of claim 11 wherein said external source of information is the internet (Column 6, lines 38-54 disclose the use of internet communication).

As to Claim 13, Blackett et al. anticipate the communications system architecture of claim 1 wherein said node element implements said control plane of interaction to control a device associated with said node element (Column 5, line 62 through Column 6, line 23 disclose the IED controlling electric power distribution).

As to Claim 14, Blackett et al. anticipate the communications system architecture of claim 1 wherein said node element implements said power analysis plane of interaction and said control plane of interaction to assess power conditions on said electric power network and to control a device associated with said node element to meet a predefined objective (Column 5, line 62 through Column 6, line 23 disclose the power analysis and control to meet the power management objectives).

As to Claim 15, Blackett et al. anticipate the communications system architecture of claim 1 wherein said predefined objective is a self-healing objective to selectively control power consumption to thereby balance load on said electric power network (Column 36, line 49 through Column 37, line 2 disclose IED's re-routing power based on a self-healing algorithm).

As to Claim 16, Blackett et al. anticipate the communications system architecture of claim 1 wherein said node element implements a proxy mechanism whereby a device associated with said node may be controlled by entities external to said device that are coupled to said electric power network (Column 27, lines 41-52 disclose the transport box in one embodiment that works with the IED to communicate information with the network external devices).

As to Claim 17, Blackett et al. anticipate the communications system architecture of claim 1 wherein said node element implements data encryption to control access to information via said global port (Column 4, lines 29-32 and Claims 5, 40 and 59 disclose the use of encryption for security purposes).

As to Claim 18, Blackett et al. anticipate an appliance for coupling to an electric power network, comprising:

an appliance processor that supports an appliance control interface having an associated data store of appliance control data (Column 5, line 62 through Column 6, line 23 discloses power monitoring and control modules);

a node element having a global port coupled to said electric power network and an inward port configured to access said data store of appliance control data (Column 5, line 62 through Column 6, line 23 disclose the IED, a two-port device coupled to an electric power network and having data monitoring and control capabilities);

the node element being configured to propagate said appliance control interface though said global port thereby allowing access to said data store of appliance control data from the electric power network (Fig. 17 and Column 6, lines 38-54 disclose the IED acting as a data sharing network node capable of sharing data about its associated device or sub-network of devices).

As to Claim 19, Blackett et al. anticipate the appliance of claim 18 wherein said node element is configured to selectably support at least one of three planes of

interaction using the information maintained within said global and local data stores (Column 12, lines 1-22 disclose the power management application components including peer-to-peer communication, power control and monitoring components that can operate together or selectively in any combination):

a power analysis plane of interaction (Column 5, line 62 through Column 6, line 23 disclose the IED performing power analysis),

a data plane of interaction (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports), and

a control plane of interaction (Column 5, line 62 through Column 6, line 23 disclose the IED controlling its associated load).

As to Claim 20, Blackett et al. anticipate the appliance of claim 18 wherein said node element is implemented using modular blocks providing sets of features that can be selectively included or excluded (Column 12, lines 1-22 disclose the power management application components including peer-to-peer communication, power control and monitoring components that can operate together or selectively in any combination).

As to Claim 21, Blackett et al. anticipate the appliance of claim 19 wherein said node element is adapted to selectively enable and disable selected ones of said planes of interaction (Column 12, lines 1-22 disclose the power management application

components including peer-to-peer communication, power control and monitoring components that can operate together or selectively in any combination).

As to Claim 22, Blackett et al. anticipate the appliance of claim 18 wherein said node element further includes a global data store that is populated with information supplied via said global port and is accessible via said local port (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents. Column 13, lines 13-19 disclose the collection of data from the port connected to the network components or to other IED's).

As to Claim 23, Blackett et al. anticipate the appliance of claim 22 wherein said global data store is configured to store aggregate information that is periodically updated (Column 5, lines 37-41 disclose monitoring which is the collection of aggregate data over periodic intervals. Column 16, lines 49-55 disclose the periodic update of consumption data at pre-defined time intervals).

As to Claim 24, Blackett et al. anticipate the appliance of claim 18 wherein said node element further includes a local data store that is populated with information supplied via said local port and is accessible via said global port (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port

has access to the other port's memory contents. Column 11, lines 47-59 disclose the memory used to store data from the local power management port and the use of the IED as a communications device with other IED devices).

As to Claim 25, Blackett et al. anticipate the appliance of claim 24 wherein said local data store is configured to store aggregate information that is periodically updated (Column 5, lines 37-41 disclose monitoring which is the collection of aggregate data over periodic intervals. Column 16, lines 49-55 disclose the periodic update of consumption data at pre-defined time intervals).

As to Claim 26, Blackett et al. anticipate the appliance of claim 24 wherein said local data store is configured to store local interface information about with a device associated with said node element (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents. Column 11, lines 47-59 disclose the memory used to store data from the local power management port and the use of the IED as a communications device with other IED devices)

As to Claim 27, Blackett et al. anticipate the appliance of claim 18 wherein said node element implements a power analysis plane of interaction to collect and

disseminate power quality of service information (Column 5, line 62 through Column 6, line 23 disclose power analysis and dissemination by the IED).

As to Claim 28, Blackett et al. anticipate the appliance of claim 18 wherein said node element implements a data plane of interaction to couple said appliance to an external source of information (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents).

As to Claim 29, Blackett et al. anticipate the appliance of claim 28 wherein said external source of information is the internet (Column 6, lines 38-54 disclose the internet communication).

As to Claim 30, Blackett et al. anticipate the appliance of claim 18 wherein said node element implements a control plane of interaction whereby said appliance may be controlled by information input through said node element (Column 5, line 62 through Column 6, line 23 disclose the IED distributed control features).

As to Claim 31, Blackett et al. anticipate the appliance of claim 18 wherein said node element implements a power analysis plane of interaction and a control plane of

interaction to assess power conditions on said electric power network and to control said appliance to meet a predefined objective (Column 5, line 62 through Column 6, line 23 disclose the power analysis and control features of the IED to meet the power management objectives).

As to Claim 32, Blackett et al. anticipate the appliance of claim 18 wherein said predefined objective is a self-healing objective to selectively control power consumption to thereby balance load on said electric power network (Column 36, line 49 through Column 37, line 2 disclose IED's re-routing power based on a self-healing algorithm).

As to Claim 33, Blackett et al. anticipate the appliance of claim 18 wherein said node element implements a proxy mechanism whereby said appliance may be controlled by entities external to said appliance that are coupled to said electric power network (Column 27, lines 41-52 disclose the transport box in one embodiment that works with the IED to communicate information with the network external devices).

As to Claim 34, Blackett et al. anticipate the appliance of claim 18 wherein said node element implements data encryption to control access to information via said global port (Column 4, lines 29-32 and Claims 5, 40 and 59 disclose the use of encryption for security purposes).

As to Claim 35, Blackett et al. anticipate a method for facilitating interactions among a plurality of devices having at least one of power and analysis monitoring, control and communications capabilities and coupled to one another over a utility power network, the method comprising:

providing each of the devices with an inward port for establishing at least one of a power and analysis monitoring, control and communications link with at least one second device of the plurality of devices which is located downstream in the network (Column 5, line 62 through Column 6, line 23 disclose the IED's power monitoring, analysis and control. Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents);

providing each of the devices with a global port for establishing at least one of a power and analysis monitoring, control and communications link with at least one third device of the plurality of devices which is located upstream in or at a same network layer portion of the network (Column 5, line 62 through Column 6, line 23 disclose the IED's power monitoring, analysis and control. Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents); and

providing each of the devices with at least one globally available local interface, wherein the globally available local interface extracts interaction data from the links

established at the global port or the inward port and processes the interaction data to identify source and destination devices corresponding to the established links and to identify at least one of distributed computing instructions, data aggregation instructions, device control instructions and aggregated data clusters, wherein the globally available local interface universally formats at least a portion of the interaction data associated with the link established at the inward port for transmission to at least one of the second device and the third device (Column 5, line 62 through Column 6, line 23 disclose data aggregation via monitoring and device control. Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to, and receive information from, other nodes, hence each port has access to the other port's memory contents)

As to Claim 36 Blackett et al. anticipate the method of claim 35, wherein the device control instructions include information concerning potential or actual faults in the network and at least one alternative for transferring transmission of at least one of power and communications signal energy associated with a first segment of the network to a second segment of the network, thereby self healing the network (Column 36, line 49 through Column 37, line 2 disclose IED's re-routing power based on a self-healing algorithm).

As to Claim 37, Blackett et al. anticipate the method of claim 35 further comprising:

aggregating data received from the second device in accordance with the aggregating data instructions (Column 5, lines 36-41 disclose IED's exchanging monitoring, protection and control information);

formatting the aggregated data into a universal format (Column 6, lines 38-54 disclose the TCP/IP universal formatting); and

transmitting the universally formatted aggregated data from the global port to the third device (Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to, and receive information from, other nodes, hence each port has access to the other port's memory contents).

As to Claim 38, Blackett et al. anticipate the method of claim 35 further comprising:

processing service data received at the inward port from the second device or first level processed data received at the global port from the third device in accordance with the distributed computing instructions (Column 5, lines 36-41 and Column 5, line 62 through Column 6, line 23 disclose IED's processing data from the IED's device and with interaction/commands from external network devices).

As to Claim 39, Blackett et al. anticipate the method of claim 35 further comprising:

aggregating universally formatted data received from the third device in accordance with the aggregating data instructions (Column 5, lines 36-41 disclose IED's exchanging monitoring, protection and control information); and

transmitting the aggregated universally formatted data to at least one of the second device and the third device (Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to, and receive information from, other nodes, hence each port has access to the other port's memory contents).

As to Claim 40, Blackett et al. anticipate the method of claim 35 further comprising:

processing interaction data received from the second device or the third device and routing the interaction data to the destination indicated in accordance with real time data transmission criteria included in the interaction data (Fig. 7 discloses IED 711 processing data from IED 712 or IED 714 and sending to Power utility 700).

As to Claim 41, Blackett et al. anticipate the method of claim 35, wherein at least one of the global port and inner port is adapted to support at least one of a power and analysis monitoring, control and communications link and different protocols and different media (Column 5, line 62 through Column 6, line 23 disclose power analysis monitoring, control and communication).

As to Claim 42, Blackett et al. anticipate a node element apparatus for facilitating interactions among a plurality of devices having at least one of power and analysis monitoring, control and communications capabilities and coupled to one another over a ultility power network, the apparatus comprising:

an inward port for establishing at least one of a power and analysis monitoring, control and communications link with at least a second device of the plurality of devices which is located downstream in the network (Column 5, line 62 through Column 6, line 23 disclose power analysis monitoring and control. Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents)

a global port for establishing at least one of a power and analysis monitoring, control and communications link with at least a third device of the plurality of devices which is contained in an upstream portion or a same network layer portion of the network (Column 5, line 62 through Column 6, line 23 disclose power analysis monitoring and control. Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents); and

at least one globally available local interface coupled to the global port and the inward port, wherein the globally available local interface extracts interaction data from the links established at the global port or the inward port and processes the interaction

data to identify source and destination devices corresponding to the established links and to identify at least one of distributed computing instructions, data aggregation instructions, device control instructions and aggregated data clusters, wherein the globally available local interface universally formats at least a portion of the interaction data associated with the link established at the inward port for transmission to at least one of the second device and the third device (Column 5, line 62 through Column 6, line 23 discloses data aggregation via monitoring, power control. Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents).

As to Claim 43, Blackett et al. anticipate the apparatus of claim 42 further comprising:

a local structured aggregate module for aggregating data received at the inward port in accordance with the aggregating data instructions, formatting the aggregated data into a universal format, and transmitting the universally formatted aggregated data from the global port to the third device (Fig. 17 and Column 5, line 62 through Column 6, line 54 disclose power monitoring of an IED's device, formatting into TCP/IP and transmitting to other IED's on the network).

As to Claim 44, Blackett et al. anticipate the apparatus of claim 42 further comprising:

a global structured aggregate module for aggregating universally formatted data received from a plurality of the third devices and transmitting the globally aggregated universally formatted data to at least one of the third devices (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents).

As to Claim 45, Blackett et al. anticipate the apparatus of claim 42 further comprising:

a global structured aggregate module for processing service data received at the inward port from the second device or first level processed data received at the global port from the third device in accordance with the distributed computing instructions (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents).

As to Claim 46, Blackett et al. anticipate the apparatus of claim 42, wherein the device control instructions include information concerning potential or actual faults in the network and at least one alternative for transferring transmission of at least one of power and communications signal energy associated with a first segment of the network to a second segment of the network, thereby self healing the network (Column 36, line

49 through Column 37, line 2 disclose IED's re-routing power based on a self-healing algorithm).

As to Claim 47, Blackett et al. anticipate the apparatus of claim 42, wherein the globally available local interface processes interaction action received from the second device or the third device and routes the interaction data to a destination device in the network in accordance with real time data transmission criteria included in the interaction data (Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents) and (2)

As to Claim 48, Blackett et al. anticipate the apparatus of claim 42, wherein at least one of the global port and the inner port is adapted to support at least one of a power and analysis monitoring, control and communications link having different data signal protocols and on different media. (Column 5, line 62 through Column 6, line 23 disclose power analysis, monitoring and control. Fig. 17 and Column 6, lines 38-54 disclose the IED service the purpose of multi-node communication using its ports, which contain memory, to pass along information to other nodes, hence each port has access to the other port's memory contents).

As to Claim 50, Blackett et al. anticipate the method of claim 35, wherein the source and destination devices are not power management components of the utility power network, wherein the globally available local interface universally formats a) data and commands from the source device and complying with a first protocol and b) data and commands from the destination device and complying with a second protocol (Blackett et al. disclose data communications interfaces, not the power management circuitry performing the IED communication functions – Figures 1 and 2a, element 213; All data is transferred via some protocol, and hence at least some portion of the data transferred conforms to said protocol which is formatted according to that protocol - Abstract discloses IM communication protocol; Column 7, lines 15-20 disclose a plurality of protocols used).

As to Claim 51, Blackett et al. anticipate the apparatus of claim 42, wherein the source and destination devices are not power management components of the utility power network, wherein the globally available local interface universally formats a) data and commands from the source device and complying with a first protocol and b) data and commands from the destination device and complying with a second protocol (Blackett et al. disclose data communications interfaces, not the power management circuitry performing the IED communication functions – Figures 1 and 2a, element 213; All data is transferred via some protocol, and hence at least some portion of the data transferred conforms to said protocol which is formatted according to that protocol -

Abstract discloses IM communication protocol; Column 7, lines 15-20 disclose a plurality of protocols used).

***Claim Rejections - 35 USC § 103***

***19.*** The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

***20.*** The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

***21.*** This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***22.*** Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,944,555 B2 (Blackett et al.), and further in view of US 2002/0111755 A1 (Valadarsky et al.).

As to Claim 5, Blackett et al. anticipate the communications system architecture of claim 1.

Blackett et al. do not explicitly disclose wherein said global data store is configured to store aggregate information that is periodically updated, wherein the aggregation information provides knowledge of faults in the electric power network, wherein the node element is reconfigured for supporting at least one of the three planes of interaction based on the knowledge, but Valadarsky et al. disclose wherein said global data store is configured to store aggregate information that is periodically updated, wherein the aggregation information provides knowledge of faults in the electric power network, wherein the node element is reconfigured for supporting at least one of the three planes of interaction based on the knowledge (Valadarsky et al. disclose altering configuration data based upon periodic updates of fault data – Page 8, ¶ [0273]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine wherein said global data store is configured to store

aggregate information that is periodically updated, wherein the aggregation information provides knowledge of faults in the electric power network, wherein the node element is reconfigured for supporting at least one of the three planes of interaction based on the knowledge taught by Valadarsky et al., with the three planes of interaction taught by Blackett et al., in order to determine root cause of faults (Valadarsky et al. – Abstract).

***23.*** Claim 49 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,944,555 B2 (Blackett et al.), and further in view of US 6,640,890 B1 (Dage et al.).

As to Claim 49, Blackett et al. anticipate the communications system architecture of claim 1 wherein the node element is operable to expose an existing control interface (Column 5, line 62 through Column 6, line 23 disclose the IED controlling its associated load; Blackett et al. disclose the controlling interface of an IED (Figure 2a, element 220).

Blackett et al. does not explicitly disclose that is for controlling at least one operational function of a HVAC system or a domestic hot water heater, but Dage te al. disclose that is for controlling at least one operational function of a HVAC system or a domestic hot water heater (Dage et al. disclose power control of an HVAC system - Column 1, lines 26-26).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine controlling at least one operational function of a HVAC system taught by Dage et al., with the node element is operable to expose an existing

control interface taught by Blackett et al., in order to control zones of a load device (Dage et al. - Column 1, lines 18-24).

***Conclusion***

***24.*** Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard G. Keehn whose telephone number is 571-270-5007. The examiner can normally be reached on Monday through Thursday, 9:00am - 8:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bunjob Jaroenchonwanit can be reached on 571-272-3913. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RGK

/Yasin M Barqadle/
Primary Examiner, Art Unit 2456